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contacting the surface of the channel walls, we have found that the permeation of the liquid in the channel walls is greatly facilitated."

- vi. The entire wall-flow filter is under vacuum; there is no pressure drop across the filter but, instead, the invention achieves its advantage by "evacuating the channel walls" and introducing the washcoat into a system which is already under vacuum. See page 9, lines 29-31: "An aspect of the invention is that the entire filter is "soaked" in the vacuum. This prevents caking of washcoat components at a surface of a channel, e.g., as in the method disclosed in EP-A-766993." Compare with applying a vacuum across the channel walls of a wall-flow filter. See page 3, lines 11-13.

II. The Pending Rejections - Office Action of 13 APR 11

- a. First, the previous obviousness rejection of process claims was withdrawn; Examiner Takeuchi agreed that Shimrock is not applicable to a "wall-flow meter. (*sic*, filter)"
- b. Yet, Apparatus claims 18, 26, and 27 are rejected as anticipated by Shimrock, because the material or article worked upon does not limit the apparatus claims. See MPEP § 2115. Also, the following has been deemed a mere preamble limitation reciting purpose or intended use: "a catalysed ceramic wall-flow filter having filter walls, wherein said filter walls define a plurality of channels and have a pore structure, the plurality of channels in the wall-flow filter are plugged at an inlet end or an outlet end of the wall-flow filter." MPEP § 2111.02 (II).
- c. Claims 18 and 21 are rejected as obvious based on Hoyer et al. (GB 1,515,733).
- d. Claims 26 and 27 are unpatentable as obvious based on Hoyer in view of Shimrock.
- e. Claims 1-6, 10, 15, 16, 22 and 25 are rejected as obvious based on Brisley (WO 01/12320) in view of Hoyer.
- f. Claims 7, 8, 15 and 23 are obvious over Brisley in view of Hoyer and further in view of Dornseiffer (US 2004/0235658).
- g. Claims 15 and 24 are rejected as obvious over Brisley in view of Hoyer and further in view of Twigg.

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- h. Claims 1, 5, 15, 22, and 25 are rejected as obvious based on Hoyer in view of Brisley.

III. Response

- a. Rejection of Apparatus claims as anticipated by Shimrock

- i. We propose amending the apparatus claims to become kit/assembly claim - Note end of Section 2115:

"Note that this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit)."

PROPOSED CLAIM 26:

A system comprising a pre-formed, catalysed ceramic wall-flow filter having filter walls, wherein said filter walls define a plurality of channels and have a pore structure, the plurality of channels in the wall-flow filter are plugged at an inlet end or an outlet end of the wall-flow filter, and an apparatus comprising (1) a pressurisable container having a sealable closure for receiving the ceramic wall-flow filter, (2) a vacuum pump to reduce pressure in the isolated channels to below the surrounding atmospheric pressure thereby to establish a vacuum in the pore structure of the filter walls to provide isolated and evacuated channels, (3) at least one reservoir for holding a liquid containing at least one catalyst component or a precursor thereof, and (4) a pump for dosing the isolated and evacuated channels with a pre-determined quantity of the liquid.

*Support: Abstract - Apparatus 100; Set up of Background - flow-through (p. 1) v. wall-flow (p. 2); Discussion throughout spec and Fig. 1; p. 3, line 19.

- b. Claim 24 should be allowed because Twigg is not prior art.
- c. Obviousness rejection of Brisley in view of Hoyer. Applicants traverse this rejection for at least two reasons:
- i. The Examiner characterized Brisley as teaching "contacting a surface of the evacuated channel walls with a liquid containing at least one catalyst component." The Examiner cites to page 2, line 6-13 and page 10, lines 14-16. However, neither those citations nor elsewhere

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does Brisley disclose applying the evacuated channel walls of the wall-flow filter with a liquid containing at least one catalyst component. Nowhere does Brisley disclose this step. The description at page 10 involves dipping one end of the monolith into an aqueous dispersion of a certain washcoat and drying it, then dipping the other end of the monolith into a different washcoat and they drying it again. Even if combined, neither of the references disclose this step.

- ii. The proposed modification would render Brisley unsatisfactory for its intended purpose. As described in Brisley, the oxidation catalyst oxidizes NO to NO₂ which then continuously combusts the soot trapped in the gas permeable zone of the wall-flow filter of Brisley. As mentioned above when comparing Fig. 2 to Fig. 3, the present invention achieves a homogeneous dispersion of the catalyst throughout the wall. Compare this with the desirability in Brisley of having the catalyst loaded on one surface of the wall. Based on the flow path in the impermeable zone upstream in Brisley, it would be undesirable to have any portion of the catalyst dispersed into the wall (which is disclosed in Brisley as in an "impermeable zone"), but instead the catalyst should be contacting the gas surface. If, however, the methodology of Hoyer were applied to Brisley, the oxidation catalyst would be drawn into the wall and an insufficient amount would be remaining on the surface to convert NO to NO₂ for later use in combusting the soot. Importantly and as mentioned above, it should be noted that the zone where the oxidation catalyst resides is gas impermeable, so all of that portion of the catalyst within the wall (the vast majority) would be unavailable to oxidize NO to NO₂.

- d. The obviousness rejection of Hoyer in view of Brisley. Applicants traverse this rejection for at least two reasons also.

- i. Once again, Brisley does not teach contacting the surface of the evacuated channel walls with a liquid containing at least on catalyst component.
- ii. No adequate reason has been provided for modifying Hoyer to use it in conjunction with the wall-flow filter such as that described in Brisley. Page 15, lines 7-9 of the Office Action reads:

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As a result, it would have been obvious to a person of ordinary skill at the time of the invention to use the method of Hoyer to coat the catalyst support members of a wall-flow filter since wall-flow members have catalyst support members.

Presumably, the phrase "as a result," is intended to connote some reason for combining Hoyer with Brisley. However, the preceding paragraph merely copies from the rejection of Brisley in view of Hoyer and describes that Brisley allegedly teaches step (b) but does not teach step (a). Furthermore, the remainder of that portion of the so-called reason for combining ("since wall-flow members have catalyst support members") is circuitous.